## WYONING ARBERS



Calth Science

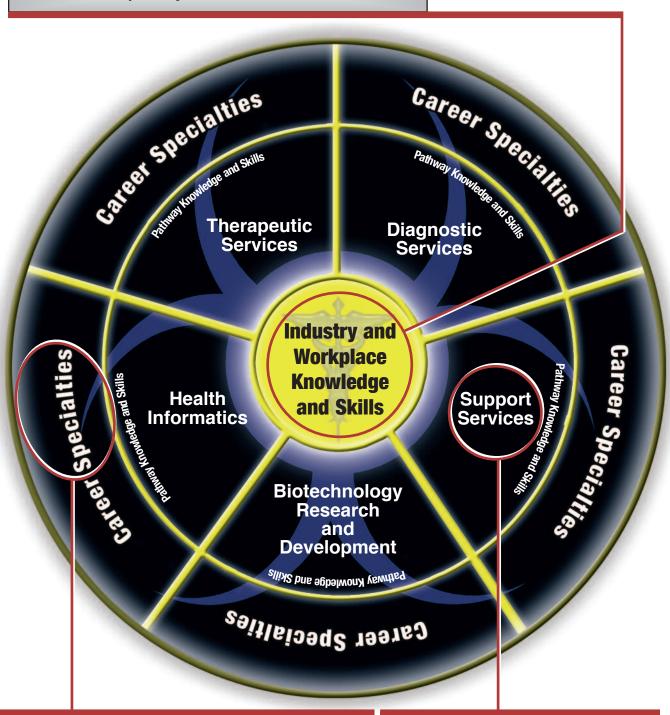
Planning, managing and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

**Career Cluster Guide** 

2009-2010

### CAREER CLUSTER MODEL

Industry and workplace knowledge and skills are taught and reinforced in all pathways and at all levels.



Highly specific career specialty skills are taught at the postsecondary level by colleges, trade schools, apprenticeships or other training options.

High schools offer some or all pathways to students and teach pathway-specific knowledge and skills.

#### PATHWAY

#### SPECIFIC OCCUPATIONS

#### **Therapeutic** Services

- Acupuncturist
- Anesthesiologist Assistant
- Art/Music/Dance Therapist(s)
- Athletic Trainer
- Audiologist
- Certified Nursing Assistant
- Chiropractor
- Dental Assistant/Hygienist
- Dental Lab Technician
- Dentist
- Dietician
- Dosimetrist
- EMT

- Exercise Physiologist
- · Home Health Aide
- Kinesiotherapist
- Licensed Practical Nurse
- Massage Therapist
- Medical Assistant
- Mortician
- Occupational Therapist/Assistant
- Ophthalmic Medical Personnel
- Optometrist
- Orthotist/Prosthetist
- Paramedic
- Electronic Diagnostic

- Histotechnologist
- Magnetic Resonance
- Mammographer
- Medical Technologist/Clinical

- Pharmacist/Pharmacy Technician
- Physical Therapist/Assistant
- Physician (MD/DO)
- · Physician's Assistant
- Psychologist
- · Recreation Therapist
- Registered Nurse
- · Respiratory Therapist
- Social Worker

Nutritionist

· Pathologist

Speech Language Pathologist

· Nuclear Medicine Technologist

- Surgical Technician
- Veterinarian/Vet Tech

#### Diagnostic Services

- Cardiovascular Technologist
- · Clinical Lab Technician
- Computer Tomography (CT) Technologist
- Cytogenetic Technologist
- Cytotechnologist
- Diagnostic Medical Sonographer
- Electrocardiographic (ECG) Technician

- (EEG) Technologist
- Exercise Physiologist
- Geneticist
- Histotechnician
- (MR) Technologist

Health Information

Medical Assistant

Medical Biller/Patient

Financial Services

Medical Information

Services Administrator

Healthcare Administrator

- Laboratory Scientist
- Phlebotomist · Positron Emission Tomography
- (PET) Technologist

Pathology Assistant

 RadiologicTechnologist/ Radiographer

Public Health Educator

Reimbursement Specialist

Radiologist

(HFMA)

Risk Manager

Social Worker

Transcriptionist

Unit Coordinator

Patient Advocate

#### Health **Informatics**

Support

Services

- Admitting Clerk
- Applied Researcher
- Community Services Specialist
- Data Analyst
- Epidemiologist (SHSMD Stratsociety.org)
- Ethicist
- Health Educator
- Health Information Coder

Biomedical/Clinical Engineer

**Technologist** 

- Biomedical/Clinical Technician
- Central Services Director
- Environmental Health and
- Safety Technician
- Environmental Services Manager

Medical Librarian/Cybrarian

- Facilities Manager
- Food Service Personnel
- Hospital Maintenance Engineer
- Industrial Hygienist

Utilization Manager

- Materials Manager

#### Biotechnology Research and Development

- Biochemist
- Bioinformatics Associate
- Bioinformatics Scientist
- Bioinformatics Specialist
- Biomedical Chemist
- Biostatistician
- · Cell Biologist
- Clinical Trials Research Associate

- Clinical Trials
- Research Coordinator
- Geneticist
- · Lab Assistant Genetics
- · Lab Technician
- Microbiologist
- · Molecular Biologist
- Pharmaceutical Scientist
- · Quality Assurance Technician

- Transport Technician
- Quality Control Technician
- Regulatory Affairs Specialist · Research Assistant
- · Research Associate
- Research Scientist
- Toxicologist



#### Wyoming's Highest-Paying, Fastest-Growing Jobs

Title	Basic Description  O*NET/SOC Description (may be truncated)	Anticipated Total 2014 Employment
Source: See footnote #1	Source: See footnote #1	Source: See footnote #1
Dental assistants	Assist dentist, set up patient and equipment, and keep records.	684
Dental hygienists	Clean teeth and examine oral areas, head, and neck for signs of oral disease. May educate patients on oral hygiene, take and develop X-rays, or apply fluoride or sealants.	448
Emergency medical technicians and paramedics	Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.	456
Home health aides	Provide routine, personal health care, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled persons in the home of patients or in a residential care facility.	2,007
Licensed practical and licensed vocational nurses	Care for ill, injured, convalescent, or disabled persons in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions.	1,230
Medical and clinical laboratory technicians	Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.	192
Medical and clinical laboratory technologists	Perform complex medical laboratory tests for diagnosis, treatment, and prevention of disease. May train or supervise staff.	312
Medical assistants	Perform administrative and certain clinical duties under the direction of a physician.	576
Medical equipment preparers	Prepare, sterilize, install, or clean laboratory or health care equipment.	204
Nursing aides, orderlies, and attendants	Provide basic patient care under direction of nursing staff. Perform duties such as feed, bathe, dress, groom, or move patients, or change linens.	4,304
Occupational health and safety specialists	Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors.	200
Occupational therapists	Assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled persons.	274
Pharmacists	Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use.	712
Pharmacy technicians	Prepare medications under the direction of a pharmacist. May measure, mix, count out, label, and record amounts and dosages of medications.	439
Physical therapist assistants	Assist physical therapists in providing physical therapy treatments and procedures.	157
Physical therapists	Assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury.	404
Physician assistants	Provide health care services typically performed by a physician, under the supervision of a physician.	327
Physicians and surgeons	Diagnose, treat, and help prevent diseases and injuries.	1,360

<sup>1.</sup> Source: doe.state.wy.us/lmi

<sup>2.</sup> Source: www.careerinfonet.org

<sup>3.</sup> Wyoming does not have a medical school; however, Wyoming Colleges and the University of Wyoming provide prerequisite degrees for a doctorate in this field, such as Pre-Med and Biology. Please talk to a career guidance staff member in your high school, community college, university or workforce center to learn more.

#### **Health Science**

Wyoming Number of New Jobs, Projected 2004-2014	Wyoming Estimated Hourly Average Wage	Wyoming Estimated Yearly Wage	Most Common Education/ Training	Suggested Programs of Study	Is at least one of these programs available in Wyoming?
Source: See footnote #1	Source: See	e footnote #1	Source: See footnote #2	Source: See footnote #2	
178	\$12.64	\$26,305	Moderate-term on- the-job training	Dental Assisting	Yes
119	\$25.43	\$52,900	Associate degree	Dental Hygiene	Yes
84	\$14.46	\$30,081	Postsecondary vocational award	Emergency Care Attendant (EMT Ambulance)     Emergency Medical Technology/Technician (EMT Paramedic)	Yes
775	\$10.59	\$22,010	Short-term on-the- job training	Home Health Aide	Yes
242	\$17.90	\$37,239	Postsecondary vocational award	Licensed Practical/Vocational Nurse Training (LPN, LVN, Cert., Dipl, AAS)	Yes
39	\$15.35	\$31,940	Associate degree	Blood Bank Technology Specialist     Clinical/Medical Laboratory Assistant     Hematology Technology/Technician	Yes
55	\$24.88	\$51,756	Bachelor's or higher degree, plus work experience	Clinical Laboratory Science/Medical Technology     Clinical/Medical Laboratory Science and     Allied Professions     Cytotechnology	Yes
187	\$11.59	\$24,105	Moderate-term on- the-job training	Allied Health and Medical Assisting Services     Medical Administrative/Executive Assistant     Medical Office Assistant/Specialist     Medical Office Management/Administration	Yes
60	\$13.09	\$27,219	Short-term on-the- job training	Allied Health and Medical Assisting Services     Medical/Clinical Assistant	Yes
1,017	\$11.66	\$24,256	Postsecondary vocational award	Health Aide     Nurse/Nursing Assistant/Aide and     Patient Care	Yes
50	\$31.38	\$65,277	Bachelor's degree	Environmental Health     Occupational Health and Industrial Hygiene     Occupational Safety and Health Technology	Yes
56	\$27.11	\$56,387	Master's degree	Occupational Therapy	Yes
215	\$36.47	\$75,859	First professional degree	Clinical, Hospital, and Managed Care Pharmacy (MS, PhD)     Medicinal and Pharmaceutical Chemistry (MS, PhD)     Pharmaceutics and Drug Design (MS, PhD)	Yes
135	\$14.30	\$29,739	Moderate-term on- the-job training	Pharmacy Technician/Assistant	Yes
48	\$17.35	\$36,081	Associate degree	Physical Therapist Assistant	Yes
107	\$31.68	\$65,888	Master's degree	Kinesiotherapy/Kinesiotherapist     Physical Therapy/Therapist	Yes
109	\$32.09	\$66,736	Master's degree	Physician Assistant	Yes
230	\$91.13	\$189,569	First professional degree	General Surgery (MD) <sup>3</sup> Medicine (MD) <sup>3</sup>	Yes

For additional information
and resources, go to:
http://www.wyomingworkforce.org/resources/
links\_career.aspx

#### Wyoming's Highest-Paying, Fastest-Growing Jobs

	Title		Basic Description O*NET/SOC Description (may be truncated)		Anticipated Total 2014 Employment		
	Source: See footnote #1		Source: See footnote #1		Source: See footnote #1	$\Box$	
	Radiologic technologists and technicians	ı	Take X-rays and CAT scans or administer nonradioactive materials into patient's blood stream for diagnostic purposes. Includes technologists who specialize in other modalities, such as computed tomography and magnetic resonance.	l	544		
ı	Registered nurses	ı	Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients.	ı	5,172		
ı	Respiratory therapists	ı	Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures, maintain patient records, and select, assemble, check, and operate equipment.	l	167		
	Surgical technologists	l	Assist in operations under the supervision of surgeons, registered nurses, or other surgical personnel.		143		

- 1. Source: doe.state.wy.us/lmi
- 2. Source: www.careerinfonet.org

#### **Wyoming Licensed Occupations - Health Science**

#### Licensing Licensing **Occupational Title Occupational Title** Agency Agency Industrial-Board of Medicine Board of Psychology 211 W. 19th Street, 2020 Carey Avenue, Suite 201 **Anesthesiologists Organizational** 2nd Floor Cheyenne, Wyoming 82002 **Psychologists** Cheyenne, Wyoming 82002 State Board of Examiners for Audiologists and Board of Medicine Speech Pathology and 211 W. 19th Street. Speech Internists, General Audiology 2nd Floor 2020 Carey Avenue, Suite 201 **Pathologists** Cheyenne, Wyoming 82002 Cheyenne, Wyoming 82002 Board of Chiropractic Board of Nursing Staff **Licensed Practical Examiners** Chiropractors 2020 Carey Avenue, Suite 110 2020 Carey Avenue, Suite 201 Nurses Cheyenne, Wyoming 82002 Cheyenne, Wyoming 82002 Clinical, Counseling Board of Psychology Wyoming Mental Health Medical and Public 2020 Carey Avenue, Suite 201 Professions Licensing Board **Health Social** and School Cheyenne, Wyoming 82002 2020 Carey Avenue, Suite 201 Workers **Psychologists** Cheyenne, Wyoming 82002 Mental Health and Wyoming Mental Health **Board of Dental Examiners Dentists and Substance Abuse** Professions Licensing Board 2020 Carey Avenue, Suite 201 Counselors and 2020 Carey Avenue, Suite 201 **Dental Hygienists** Cheyenne, Wyoming 82002 Cheyenne, Wyoming 82002 **Social Workers** Office of Emergency Medical **Emergency** Board of Nursing Staff Services Medical **Nurse Practitioners** 2300 Capitol Avenue, 2020 Carey Avenue, Suite 110 Hathaway Building Cheyenne, Wyoming 82002 **Technicians** Cheyenne, Wyoming 82002 Board of Medicine Board of Nursing Staff Family and General 211 W. 19th Street **Nursing Aides** 2020 Carey Avenue, Suite 110 **Practitioners** 2nd Floor Cheyenne, Wyoming 82002 Cheyenne, Wyoming 82002 Board of Hearing Aid Board of Medicine **Hearing Aid** Obstetricians and Specialists 211 W. 19th Street. 2020 Carey Avenue, Suite 201 2nd Floor **Specialists Gynecologists** Cheyenne, Wyoming 82002 Cheyenne, Wyoming 82002 Occupational Wyoming State Board of Wyoming Board of **Home Health** Therapists and Nursing Occupational Therapy

Occupational

Therapy Assistants

1120 Logan Avenue, Suite 106

Cheyenne, Wyoming 82002

2020 Carey Avenue, Suite 110

Cheyenne, Wyoming 82002

**Aides** 

#### **Health Science**

Wyoming Number of New Jobs, Projected 2004-2014		Wyoming Estimated Hourly Average Wage		Wyoming Estimated Yearly Wage		Most Common Education/ Training		Suggested Programs of Study	Is at least one of these programs available in Wyoming?
Source: See footnote #1		Source: See	e f	ootnote #1		Source: See footnote #2		Source: See footnote #2	
140	ı	\$21.49	l	\$44,707	l	Associate degree	ı	Allied Health Diagnostic, Intervention, and Treatment     Medical Radiologic Technology     Radiologic Technology/Science	Yes
1,284	ı	\$26.03	l	\$54,140	l	Associate degree	ı	Nursing Science (MS, PhD)     Nursing/Registered Nurse (RN, ASN, BSN, MSN)	Yes
44	ı	\$24.08	l	\$50,079	l	Associate degree	ı	Respiratory Care Therapy	Yes
32		\$17.04		\$35,444		Postsecondary vocational award		Pathology/Pathologist Assistant     Surgical Technology/Technologist	Yes

#### **Wyoming Licensed Occupations - Health Science**



http://wydoe.state.wy.us/lmi/DIR\_LIC/TOC.HTM for complete licensing and training requirements.

For additional information
and resources, go to:
http://www.wyomingworkforce.org/resources/
links\_career.aspx



## PROGRAMS OF STUDY WYOMING COMMUNITY COLLEGES HEALTH SCIENCE

υ (	o guin	ty	lege	ming Ilege D	ning ollege
Casper College	Eastern Wyoming Colleg	Laramie County Community College	Northwest College	Northern Wyoming Community College Distri	Western Wyoming Community College

#### **MAJORS**

Activities Professional Addictionology Allied Health Athletic Training Clinical Health Care Assistant Dental Assistant **Dental Hygiene** Diagnostic Medical Sonography EHS - Health & Safety Technician **Emergency Services - Paramedic** Exercise Science **Health Sciences Human Services Human Services - Addictions Options** Human Services - General Options Medical Laboratory Technician **Medical Office Assistant** Medical Office Support Medical Technology Medical Transcription Nursing Nursing (Practical Outreach Program) **Nursing Assistant Certificate Nursing Transfer** Nursing - Associate Degree Nursing - LPN Nutrition Occupational Safety and Health Occupational Therapy Assistant Paramedic Technology Paramedics - Emergency Management Pharmacy Technology Phlebotomy Technician **Physical Therapist Assistant** 

#### AS - Associate of Sciences AA - Associate of Arts AAS - Associate of Applied Sciences ADN - Associate Degree in Nursing

C - Certificate							
AAS, C							
AA, AS, C							
				AS			
AS	AS			AS			
С							
	С						
			AAS		AAS	AS	
			AAS				
	AAS						
			AAS, C				
						AS	
AS					AS		
			AA				
	AAS						
	AAS						
AS							
						AAS, C	
	AAS, C						
AS							
					С		
AAS, AS	AAS		AAS, C	AAS		ADN	
						С	
				С			
				AS		AS	
					AAS		
					С		
AS							
				AS			
AS							
AS							
			AAS, C				
AS, C					AAS		
С							
			AAS				

# PROGRAMS OF STUDY WYOMING COMMUNITY COLLEGES HEALTH SCIENCE

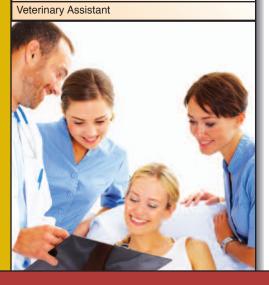
<b>O</b>	ing College	ing College	
Casper College	Central Wyoming	Eastern Wyoming	

M	Δ.	n	RS
IVI	$\neg$		$\mathbf{I}$

Physical Therapy
Practical Nursing Certificate
Practical Nursing Comprehensive Skills Certificate
Pre-Dental Hygiene
Pre-Dentistry Pre-Dentistry
Pre-Health Professional
Pre-Medical Technology
Pre-Medicine
Pre-Nursing
Pre-Occupational Therapy
Pre-Optometry
Pre-Pharmacy
Pre-Physical Therapy
Pre-Radiology
Pre-Veterinary Medicine
Psychology
Radiography
Respiratory Therapy
Skin Technology
Surgical Technology

AAS	AA - A S - Associa	ociate of associate of ate of App	of Arts olied Scie	nces
			40	

				AS		
				С		
				С		
			AAS			
AA, AS		AS	AS	AS		AS
	AS					
		AS	AS	AS		
AA, AS		AS	AS	AS		AS
		AS	AAS			
AA, AS			AS	AS		
AS			AS	AS		
AS		AS	AS	AS		AS
AS			AS			AS
						AS
		AS	AS	AS		
AA, AS	AA	AA	AA	AA	AA, AS	AA
AS			AAS			
AS						
		С				
			AAS			
				AAS		





## UNIVERSITY OF WYOMING

C	OLLEGE OF HEALTH SCIENCES	Bachelor's	Master's	Doctorate
MAJORS	Audiology  Dental Hygiene  Health Education  Hearing Science  Kinesiology & Health  Kinesiology & Health Promotion  Nursing  Nursing/Early Childhood Development  Pharmacy  Physical Education Teaching  Social Work	0	O	
	COLLEGE OF AGRICULTURE		o	D
MAJORS	Animal and Veterinary Science Family and Consumer Sciences Food Science and Human Nutrition Molecular Biology	Ō	   O	
C O	LLEGE OF ARTS AND SCIENCES			
MAJORS	Biology — Psychology — Zoology and Physiology — Psychology — Physiology — Psychology — Psycholog	<u> </u>	00	
		1	0	1



### UNIVERSITY OF WYOMING

#### COLLEGE OF EDUCATION Bachelor's Master's **Doctorate** MAJOR Counselor Education INTERDISCIPLINARY MAJORS\* Reproductive Biology Offered by Agriculture and Arts and Sciences Microbiology Offered by Agriculture, Arts and Sciences, and Health Sciences **Neurosciences** Offered by Agriculture, Arts and Sciences, and Health Sciences Molecular Biology Offered by Arts and Sciences, Agriculture, Health Sciences and Engineering PRE-PROFESSIONAL OPTIONS\* **Pre-Medicine Pre-Dentistry Pre-Optometry Pre-Occupational Therapy Pre-Physical Therapy Pre-Physician Assistant Pre-Chiropractic**

- \* Combination programs that cross over more than one discipline. May be signed up for in any of the listed colleges.
- \*\* Pre-professional options are undergraduate majors that provide prerequisite coursework for these professions.

**Pre-Veterinary** 

**Degree:** An award conferred by a college or university signifying that the recipient has satisfactorily completed a defined academic or vocational-technical program of study: Associate of Arts, Associate of Science, Associate of Applied Science, Bachelor of Arts, or Bachelor of Science.

Certificate: An official document issued to a student by a college or university attesting to the training, aptitude and/or qualification gained from the satisfactory completion of a defined program of study. Credit hours vary from 0 to 60 credit hours from one hour to two years of study, depending upon program requirements.)

This information is presented as the result of a collaborative effort among the following agencies:



#### **Notice**

The Wyoming Career Cluster Guides and accompanying Planning Guide are publications of the Wyoming Department of Education. Information contained herein is provided as a public service. While every attempt has been made to provide accurate information, there is no guarantee of the completeness or accuracy of the information provided. There is no promise or warranty that the agencies involved will continue to provide or update information. This service may be suspended or discontinued at any time. The user assumes the responsibility of verifying any information used or relied upon.

Future versions of the Wyoming Career Cluster Guides and accompanying Planning Guide may be modified in terms of content and format based upon user input. Please direct all suggestions and inquiries in writing to:

Career Cluster Coordinator

Wyoming Department of Education
2300 Capitol Avenue

Hathaway Building, 2nd Floor
Cheyenne, WY 82002-0050



The Wyoming Department of Education does not discriminate on the basis of race, color, national origin, sex, age, or disability in admission or access to, or treatment of employment in its programs or activities. Inquiries concerning Title VI, Title IX, Section 504, and ADA may be referred to Wyoming Department of Education, Office

for Civil Rights Coordinator, 2300 Capitol Ave., Cheyenne, WY 82002-0050 or 307-777-7673, or the Office of Civil Rights, Region VIII, U. S. Department of Education, Federal Building, Suite 310, 1244 Speer Boulevard, Denver, CO 80204-3582, or 303-844-5695 or TDD 303-844-3417. This information will be provided in an alternative format upon request.



States' Career Clusters Initiative 2006 www.careerclusters.org